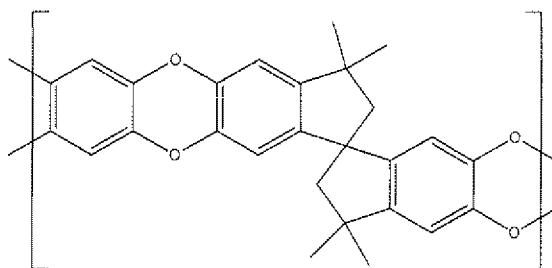


**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-63 (Cancelled).

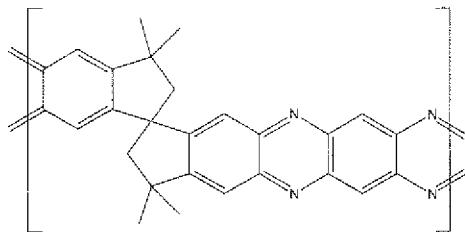
64. (Currently Amended) A microporous material which is a non-network polymer having a chain comprised of repeating units bonded to each other and each including a first generally planar species and a rigid linker, said rigid linker having a point of contortion such that two adjacent first planar species connected by a rigid linker are held in a non-coplanar orientation, and the polymer being such that said repeating units comprised of the first generally planar species and the rigid linker are bonded predominately to two other such repeating units according to claim 59, wherein the material comprises repeating units of formula:



which may be substituted or unsubstituted.

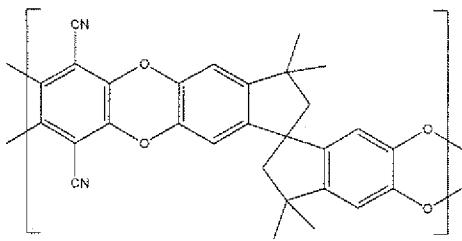
65. (Previously Presented) A microporous material which is a non-network polymer having a chain comprised of repeating units bonded to each other and each

including a first generally planar species and a rigid linker, said rigid linker having a point of contortion such that two adjacent first planar species connected by a rigid linker are held in a non-coplanar orientation, and the polymer being such that said repeating units comprised of the first generally planar species and the rigid linker are bonded predominately to two other such repeating units wherein the material comprises repeating units of formula:



which may be substituted or unsubstituted.

66. (Currently Amended) A microporous material which is a non-network polymer having a chain comprised of repeating units bonded to each other and each including a first generally planar species and a rigid linker, said rigid linker having a point of contortion such that two adjacent first planar species connected by a rigid linker are held in a non-coplanar orientation, and the polymer being such that said repeating units comprised of the first generally planar species and the rigid linker are bonded predominately to two other such repeating units according to claim 59, wherein the material comprises repeating units of formula:



67. (Previously Presented) A microporous material according to claim 64, wherein at least 70 % by mole of the first planar species are connected by the rigid linkers to a maximum of two other said planar species.

68. (Previously Presented) A microporous material according to claim 67, wherein at least 80 % by mole of the first planar species are connected by the rigid linkers to a maximum of two other said planar species.

69. (Previously Presented) A microporous material according to claim 68, wherein at least 90 % by mole of the first planar species are connected by the rigid linkers to a maximum of two other said planar species.

70. (Currently Amended) A microporous material according to claim 59 64, wherein the material has a surface area of at least  $300 \text{ m}^2 \text{ g}^{-1}$ .

71. (Currently Amended) A microporous material according to claim 59 64, wherein the material has an average pore diameter of less than 100 nm.

72. (Currently Amended) A microporous material according to claim 59 64, wherein the material has a number average mass in the range  $1 \times 10^3$  to  $1000 \times 10^3$  amu compared to polystyrene standards.

Claim 73 (Cancelled).

74. (Currently Amended) A membrane comprising a microporous material according to claim 59 64.

75. (Previously Presented) A membrane according to claim 74, wherein the membrane has a thickness which is less than or equal to 2 mm.

76. (Currently Amended) A membrane according to claim 74, wherein the membrane includes an additional entity selected from the group consisting of a catalyst species, an organometallic species, an inorganic species, at least one type of metal ion; and at least one type of metal particle.

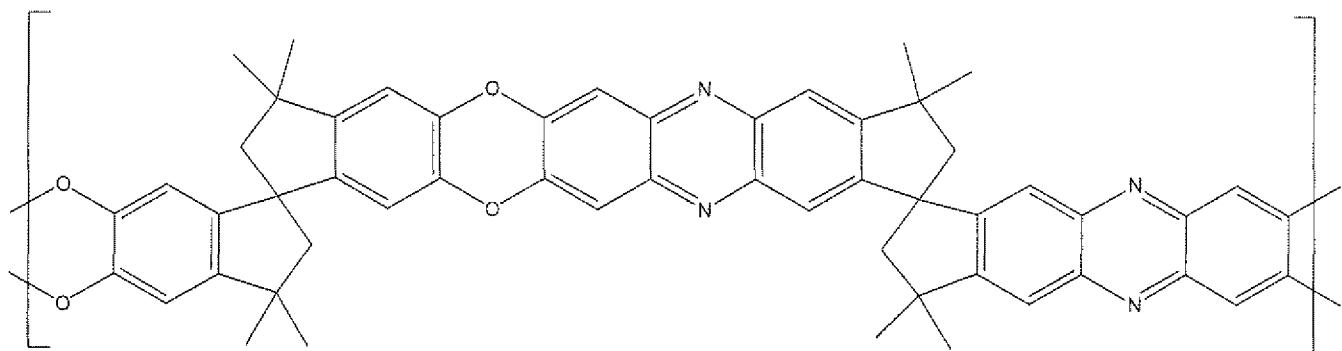
Claims 77-80 (Cancelled).

81. (Currently Amended) A catalyst system comprising a catalytic species and a microporous material according to claim 59 64.

82. (Currently Amended) A tissue support comprising a microporous material according to claim 59 64.
83. (Currently Amended) A molecular sensor comprising a microporous material according to claim 59 64.
84. (Currently Amended) An opto-electronic material comprising a microporous material according to claim 59 64.

Claims 85-88 (Cancelled).

89. (Previously Presented) A microporous material which is a non-network polymer having a chain comprised of repeating units bonded to each other and each including a first generally planar species and a rigid linker, said rigid linker having a point of contortion such that two adjacent first planar species connected by a rigid linker are held in a non-coplanar orientation, and the polymer being such that said repeating units comprised of the first generally planar species and the rigid linker are bonded predominately to two other such repeating units, wherein the material comprises repeating units of the formula:



which may be substituted or unsubstituted.

Claims 90-92 (Cancelled).

93. (Previously Presented) A microporous material according to claim 66 wherein at least 70% by mole of the first planar species are connected by the rigid linkers for a maximum of two other said planar species.

94. (Currently Amended) A microporous microporous material according to claim 93 wherein at least 80% by mole of the first planar species are connected by the rigid linkers for a maximum of two other said planar species.

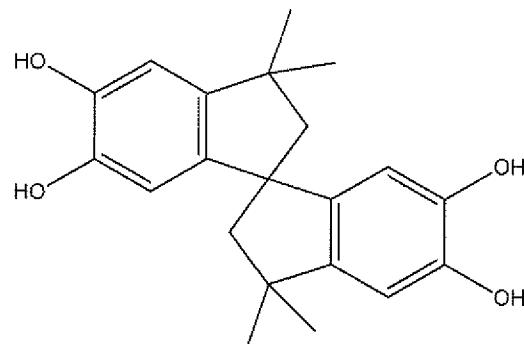
95. (Previously Presented) A microporous material according to claim 94 wherein at least 90% by mole of the first planar species are connected by the rigid linkers for a maximum of two other said planar species.

96. (New) A microporous material according to claim 66, wherein the material has a surface area of at least  $300 \text{ m}^2 \text{ g}^{-1}$ .

97. (New) A microporous material according to claim 66, wherein the material has an average pore diameter of less than 100 nm.

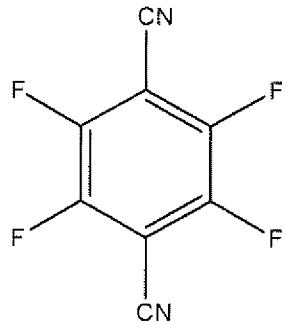
98. (New) A microporous material according to claim 66, wherein the material has a number average mass in the range  $1 \times 10^3$  to  $1000 \times 10^3$  amu compared to polystyrene standards.

99. (New) A method for producing the microporous material of claim 66 comprising reacting a first monomer unit having a point of contortion with a pair of second generally planar monomer units, wherein the first monomer unit is of the formula (2)

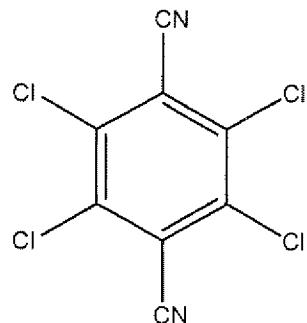


(2)

and the second monomer unit is of the formula (3) or (17)



(3)



(17)

wherein said reaction is effected under conditions such that said microporous material is produced.

100. (New) A membrane comprising a microporous material according to claim 66.

101. (New) A membrane according to claim 100, wherein the membrane has a thickness which is less than or equal to 2 mm.

102. (New) A membrane according to claim 100, wherein the membrane includes an additional entity selected from the group consisting of a catalyst species, an organometallic species, an inorganic species, at least one type of metal ion; and at least one type of metal particle.

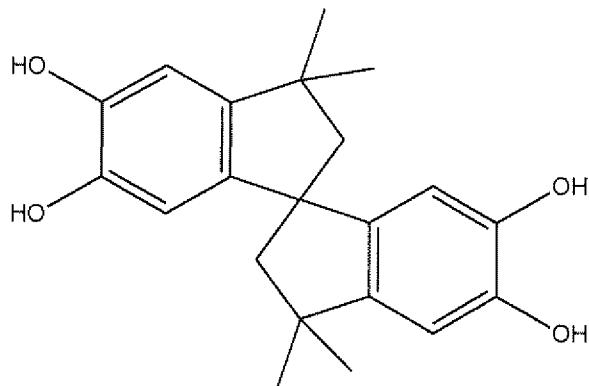
103. (New) A catalyst system comprising a catalytic species and a microporous material according to claim 66.
104. (New) A tissue support comprising a microporous material according to claim 66.
105. (New) A molecular sensor comprising a microporous material according to claim 66.
106. (New) An opto-electronic material comprising a microporous material according to claim 66.
107. (New) A microporous material according to claim 89 wherein at least 70% by mole of the first planar species are connected by the rigid linkers for a maximum of two other said planar species.
108. (New) A microporous material according to claim 107 wherein at least 80% by mole of the first planar species are connected by the rigid linkers for a maximum of two other said planar species.
109. (New) A microporous material according to claim 108 wherein at least 90% by mole of the first planar species are connected by the rigid linkers for a maximum of two other said planar species.

110. (New) A microporous material according to claim 89, wherein the material has a surface area of at least  $300 \text{ m}^2 \text{ g}^{-1}$ .

111. (New) A microporous material according to claim 89, wherein the material has an average pore diameter of less than 100 nm.

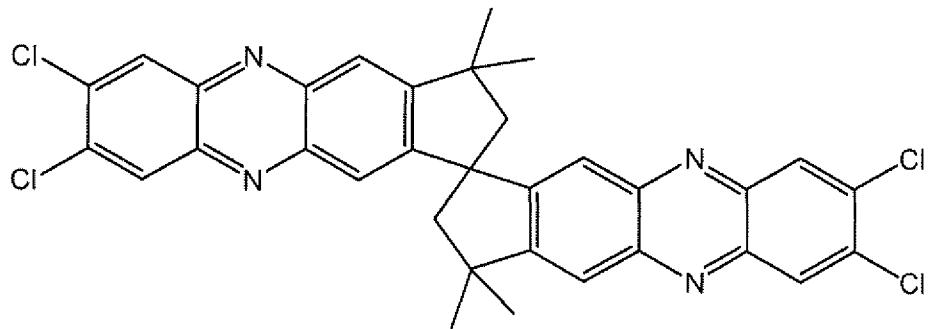
112. (New) A microporous material according to claim 89, wherein the material has a number average mass in the range  $1 \times 10^3$  to  $1000 \times 10^3$  amu compared to polystyrene standards.

113. (New) A method for producing the microporous material of claim 89 comprising reacting a first monomer unit having a point of contortion with a pair of second monomer units, wherein said first monomer unit is of the formula (2)



(2)

and said second monomer unit is of the formula (45)



(45)

wherein said reaction is effected under conditions such that said microporous material is produced.

114. (New) A membrane comprising a microporous material according to claim 89.

115. (New) A membrane according to claim 114, wherein the membrane has a thickness which is less than or equal to 2 mm.

116. (New) A membrane according to claim 114, wherein the membrane includes an additional entity selected from the group consisting of a catalyst species, an organometallic species, an inorganic species, at least one type of metal ion; and at least one type of metal particle.

117. (New) A catalyst system comprising a catalytic species and a microporous material according to claim 89.

118. (New) A tissue support comprising a microporous material according to claim 89.

119. (New) A molecular sensor comprising a microporous material according to claim 89.

120. (New) An opto-electronic material comprising a microporous material according to claim 89.